THE COLORADO RIVER DISTRICT...
protecting Western Colorado's
water since 1937

MEMORANDUM
April 7, 2004

TO: Board of Directors

FROM: Ray Tenney

SUBJECT: Continuing River District Research on Endangered Fish Flow Needs

The River District, with the assistance of other water users, has sponsored independent research into various aspects of the science supporting the need for flow to create and maintain habitat required for the four Colorado River fishes. This research has been undertaken since the mid-1980's, building on topics of concern where we believe additional information is necessary to paint a more complete picture of the need for flow to maintain native fish habitats. These efforts have included Colorado pikeminnow spawning and adult habitat on the Yampa and Green rivers, nursery habitat on the lower Green River, and in the Colorado River.

We are wrapping up work on the Colorado mainstem which was designed to answer the question "Is the current peak flow regime above the Gunnison River adequate for the maintenance of the listed fishes and the ecosystem on which they depend?" Our report is before the Recovery Program's biology committee for their review and acceptance into the body of knowledge guiding recovery efforts. You may recall, the emphasis on this issue is driven by the need to assess if recovery is possible in the face of current flows to the "15 mile reach" which by our estimate are 400,000 acre-feet on average short of the USFWS flows.

For 2004 we are planning on shifting our focus to the Gunnison River and the Colorado River below the Gunnison River where the Service has issued flow recommendations. Meeting these flow recommendations is the subject of the current EIS on the operation of the Aspinall Unit (Blue Mesa, Morrow Point and Crystal reservoirs). We believe it is important to further understand the interaction of the ecosystem of the Gunnison River from the bottom up and its response to flows which are now available.[1] This information will be important in the discussion of Aspinall operations and overall basin operations in the context of the PBO which will accompany the Aspinall EIS.

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[1] One site on the Gunnison has been studied by the River District sponsored team to "valdate" relationships observed in the Colorado mainstem.

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Other activities being undertaken by the Recovery Program (sediment sampling, development of a sediment rating curve) and by the Colorado Division of Wildlife (development of habitat suitability curves as on the Colorado, Dolores and Yampa rivers) will allow us to leverage our efforts.

For 2004 we are working to develop a research plan which:

- Fits the River District available budget.
- Supports testing of the concept that the ecosystem in the Gunnison River is functional for the needs of listed and other native fishes with the current flow regime.
- Assesses whether the peak flows available and occurring on the Gunnison River maintain the channel form and function which is necessary to support the ecosystem in the Gunnison River.

Potential activities include:

- Collection of benthic organisms (bugs and algae) at the Whitewater gage where the Recovery Program is funding a USGS operated automated sediment sampler.
- Relocation of the River District automated sampler from Clifton, where it has spent the last 5 years, to the state line USGS gage, with USGS operational support.
- Re-survey of the site in Dominguez Canyon previously studied by Dr. Milhous and the River District team, to assess channel adjustments to flow changes.
- Cooperation with the CDOW habitat suitability curve development effort to take advantage of the 2D hydrodynamic modeling effort and fish catch data.
- Review of historic aerial photographs and gage records to assess the overall planform response of the channel to varying flows over time. Aerial photos are available from the late 1930's.
- Participation in the planing and design of further investigations contemplated by the Recovery Program to support assessment of their flow recommendations, habitat/flow relationships and the “flows necessary for recovery” as required by the recovery goals for the four fishes.

Further discussion will be possible by the Board meeting.

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